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Trustworthy or shady? Exploring the influence of verifying and visualizing UGC on online journalism's trustworthiness

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TRUSTWORTHY OR SHADY?

Exploring the influence of verifying and visualizing UGC on online journalism's trustworthiness

Integrating UGC has become an everyday practice in online journalism. Previous research suggests this can have both a beneficial and detrimental effect on a recipient's perception of online journalism's trustworthiness. We conducted an online experiment that, on the one hand, examined the overall influence of integrating UGC in an online news article compared to leaving it out altogether. On the other hand, we also analyzed how two specific modes of integrating UGC, namely its verification and visualization, influence trustworthiness. Controlling for different news topics, our results show that UGC is not a way to boost journalistic trustworthiness. In general, the journalistic use of UGC has a negative but overall weak impact on recipients' perceived trustworthiness of a news article. Regarding the mode of integration, the verification of UGC to some extent positively increases trustworthiness, while visual integration has no substantial impact. Overall, the study sheds light on the hitherto somewhat neglected recipients' perspective on UGC and lays the groundwork for future studies focusing on the reasons behind the uncovered effects of UGC on trustworthiness.

KEYWORDS Audience research; experiment; journalism; online journalism; trustworthiness; user-generated content; verification; visualization;

Introduction

As various recent polls around the world indicate (Edelman 2015; European Commission 2013; Gallup 2014), journalism seems to have a trust problem. Declining trust in journalism is relevant because without its recipients' trust, journalism struggles both to generate a public sphere in which the audience gains political and social orientation and to provide common ground for public debate. Today, trust in *online* journalism specifically is perhaps even more important as recipients are increasingly turning to the Internet for their information (Kruikemeier and Lecheler 2016; Pew Research Center 2012). Despite these recent findings and the importance of journalistic trustworthiness, few studies have dealt with recipients' trust in online journalism either theoretically or empirically. We have previously taken a first step to fill this research gap by proposing a conceptual model of trust in online journalism (Grosser 2016; Grosser, Hase, and Blöbaum 2016), which takes into consideration the most important recent developments due to media changes in the digital context and their impact on journalism's trustworthiness and is partly outlined in the following chapter.

In this model, one development in online journalism in particular emerges as a double-edged sword: the use of user-generated content (UGC) as a new source. Due to digitalization-induced media changes such as the speed of (real-time) reporting, the possibility of including multimedia elements, and the ease with which recipients can use technology to play a more active part, integrating UGC has become an everyday practice in online journalism (Allan 2016; Bivens 2008; Manosevitch and Tenenboim 2016). Since UGC differs from other news sources in that it usually originates from non-professional entities, it causes new challenges with regard to sourcing practices such as verifiability (Wintterlin 2017; Brandtzaeg et al. 2016; Pantti and Sirén 2015). Previous studies indicate that the impact of UGC may differ depending the mode of integration. Research suggests that the specific effect on trustworthiness hinges on how journalists integrate UGC with regard to its verification and visualization (e.g. Brantner, Lobinger, and Wetzstein 2011; Hellmueller and Li 2015; Hermida 2015; Hermida and Thurman 2008; Volkmer and Firdaus 2013). However, research on verification practices and their

influence is predominantly conducted from the journalists' perspective without focusing on recipients' views and research on visualization has so far only seldom been taken into account in studies on UGC. This study sets out to fill these research gaps, since – especially in contentious times such as these – it is important both for journalists and journalism scholars to understand the effects of common journalistic practices such as using UGC on the audience. Therefore, it is necessary to examine the audience's views on UGC more closely in order to determine whether using UGC in journalistic coverage has a positive or negative influence on trustworthiness and whether this influence differs by its mode of integration.

To this end, an online experiment was conducted that not only examined the influence UGC generally has on recipients' perceived trustworthiness of news articles in the online context, but more specifically also took into consideration the effect of the two delineated modes of integrating UGC in online news articles. The impact of UGC was moreover tested for stability by using different topics. A news article's topic has generally been shown to have an influence on its trustworthiness (American Press Institute 2016; Fogg 2003; Miller and Kurpius 2010) and hence the influence of UGC on trustworthiness may vary with different topics.

With this study, this paper makes an important contribution to the understanding of how recipients' perceptions of online journalism's trustworthiness are impacted by UGC, offers implications for journalistic practice, and, finally, lays the groundwork for future studies on trust in online journalism that can build upon these results.

Trust in Online Journalism

While trustworthiness and credibility have often been used synonymously in the past (Kohring and Matthes 2007), this paper focuses explicitly on trust in online journalism and thus on trustworthiness¹. Trust is defined as a psychological state, namely the "willingness of [the trustor] to be vulnerable to the actions of [the trustee]" (Mayer, Davis, and Schoorman 1995, 712). It becomes relevant in situations in which a trustor perceives a risk and can therefore also be described as the willingness to take a risk (Giddens 1990; Luhmann 1979; Mayer, Davis, and Schoorman 1995). This willingness is influenced by each trustor's individual propensity to trust on the one hand and by the perceived trustworthiness of the trustee on the other (ibid.). Our understanding of journalism is rooted in systems theory, according to which journalism as an independent social system has the function of selecting and communicating current information, thereby enabling follow-up action and communication on the part of recipients (Blöbaum 2014). Therefore, this paper specifically deals with trust in systems, i.e., the trustor's willingness to be vulnerable to the system's correct functioning (Giddens 1990; Luhmann 1979). The perceived trustworthiness of any given social system is determined by the extent to which the trustor perceives his expectations regarding the correct functioning of this system to be fulfilled (Kohring 2004). Based on our previous theoretical work, we focus on journalistic pieces – in the presented study: news articles – as representatives of the journalistic system, since recipients encounter journalistic pieces on a regular basis. Thus, whether the recipient deems the individual journalistic pieces as trustworthy contributes to the recipient's perceived trustworthiness of the journalistic system overall.

Trust in journalism is therefore defined as the recipient's willingness to be vulnerable to the journalistic system's selection and communication of current information, which is expected by the recipient to enable adequate follow-up action and communication, i.e. to enable the recipient both to make decisions and partake in a larger public discourse based on the provided information. The recipient's trust in journalism is influenced by two things: his own characteristics – including his propensity to trust – and, more importantly, his perception of the system's trustworthiness, namely the extent to which he perceives

his expectations regarding the selection and communication of current information as being fulfilled. Specifically, the perceived trustworthiness of the journalistic piece on which the recipient focuses as a representative of the system – and thus the perceived trustworthiness of the journalistic system overall – is determined by the perceived fulfillment of the antecedents of trustworthiness. These antecedents are characteristics of the journalistic piece that reflect the system's correct functioning with regard to the research, selection, presentation, proofing, revision and coordination processes that lead to the journalistic article². Thus, if fulfilled, these antecedents in turn legitimize the perceived fulfillment of the recipient's expectations regarding the correct functioning. We will delineate those antecedents that are impacted by UGC in the course of the paper.

While the general understanding of trust remains the same for both offline and online journalism, we have previously identified differences in offline and online trust which arise due to digital developments in journalism that both influence existing antecedents of trustworthiness and lead to the emergence of new antecedents. Overall, the digital developments can thus impact the perceived trustworthiness of each article and consequently the perceived trustworthiness of the journalistic system in such a way that trust in online journalism seems harder to achieve than trust in offline journalism (see also Flanagin and Metzger 2000; Meier and Reimer 2011; Schweiger 2000; Stavrositu and Sundar 2008).

This paper focuses on one such development that is particularly pivotal in online journalism, namely the use of UGC as a new source. As will be elucidated in the following section, UGC can have both a positive and a negative influence on several antecedents and thus on online journalism's trustworthiness. It can therefore be regarded as somewhat of a double-edged sword. Accordingly, the way journalism integrates UGC in the news can be decisive for the perceived trustworthiness of online journalism and either counteract or exacerbate the trust-related problems journalism faces in the online context.

User-generated Content in Online Journalism

UGC Defined

Although UGC has become an important component of online journalism, scholars have been unable to agree upon a common definition of UGC. Even journalists themselves are having difficulty defining the concept in everyday practice (Wardle and Williams 2010). In this paper, UGC is narrowly defined as a specific form of participatory journalism, namely content provided by recipients in the form of personal narratives, eyewitness accounts, pictures and videos, which in turn is used by journalists to supplement their professional content (Hellmueller and Li 2015; Hermida and Thurman 2008). This excludes other forms of participatory journalism such as participation in the form of recipients' comments, i.e. interactivity, or participation in the form of recipients submitting complete news stories, i.e. citizen journalism. Professional journalists either receive UGC directly from news recipients or find content shared by recipients on social media platforms (Hänska-Ahy and Shapour 2013). Events such as the Arab spring and the Occupy Wall Street protests in 2011 propelled UGC to fully enter mainstream journalism, due to the combination of improved technology of smartphones and the difficulty of journalists being present themselves at these events (Batty 2011; Hänska-Ahy and Shapour 2013). More recently, terrorist attacks in Paris, Istanbul, Brussels, and Nice have showcased journalists' use of UGC to provide a better picture of the events while they unfold. UGC thus has become an additional source besides more traditional sources such as governments, non-governmental organizations and interviewed eyewitnesses. Especially in the case of breaking news, social media and UGC play a

major role to bridge the news vacuum until correspondents and other traditional sources arrive on the scene (Bruno 2011).

UGC's Influence on the Antecedents of Perceived Trustworthiness of Online Journalism

A review of pertinent studies indicates that UGC can generally influence the perceptions of five antecedents of trustworthiness in the online context, namely a recipient's perception of the (1) diversity of information, (2) currentness of information, (3) correctness of information, (4) reliability of sources and, finally, (5) verifiability of information. Furthermore, the literature review indicates that the influence additionally may differ by the manner in which UGC is integrated. As delineated below, most previous research on the impact of UGC in online journalism has focused on the journalistic perspective and only rarely deals with recipients' attitudes towards this development, despite the fact that "the audience is of equal importance" (Naab and Sehl 2016, 4).

UGC's General Influence

A series of newsroom observations, interviews with journalists in various countries, and reviews on the use of UGC show that using this new source allows journalists to include new angles and perspectives in their reporting (Bivens 2008; Harrison 2010; Hermida and Thurman 2008; McNair 2013; Peters and Witschge 2015; Sacco and Bossio 2015; Sienkiewicz 2014; Volkmer and Firdaus 2013), which in turn can positively influence the recipient's perception of the *diversity of information*. This diversity can be seen both in UGC providing more depth, new dimensions and alternative voices to stories that already are being covered in the news and in UGC bringing certain stories to journalists' attention that otherwise would not be covered in the first place (Bivens 2008; Harrison 2010; Hermida and Thurman 2008; Kleemans, Schaap, and Hermans 2015). UGC can therefore bolster already available information, add completely new information or question already depicted perspectives. These studies as well as content analyses furthermore show that UGC allows journalists to report information while an event is happening, even if they are not present at the event (Bivens 2008; Harrison 2010; Hellmueller and Li 2015; Hermida 2011; Sacco and Bossio 2015; Volkmer and Firdaus 2013). This can increase the recipient's perception of the *currentness of information*. Studies show that recipients agree with the positive impact of UGC that the journalistic perspective indicates: Regarding diversity, qualitative questionnaires reveal that recipients think that UGC "allows the world to see the perspective from a real life citizen" (Allan and Peters 2015, 485). And with respect to currentness, Andén-Papadopoulos (2013) demonstrates in a series of focus group interviews that recipients perceive UGC as lending currency to news stories.

While the diversity and currentness of information appear to be positively influenced by UGC, the three other antecedents seem to be negatively influenced. Studies from the journalistic perspective have shown that UGC can lead to problems of reliability concerning the sources of the content, as well as problems regarding the content's credibility (Bivens 2008; Hermida 2015; Jacobson 2010; Oswald 2013; Sacco and Bossio 2015; Singer 2010). Credibility itself refers to the three trustworthiness antecedents of the *correctness of information*, *reliability of sources* and *verifiability of information* (Kohring 2004). Difficulties with the correctness and verifiability of information can arise with regard to the dates and locations of UGC. Often, it is hard to verify whether the content really is from the time and area indicated (Hänska-Ahy and Shapour 2013; Sacco and Bossio 2015; Sienkiewicz 2014). Regarding the reliability of the sources, journalists find it difficult to determine what exactly might be propaganda, manipulated information, or

even completely faked and what not (Hänska-Ahy and Shapour 2013; Sacco and Bossio 2015). Time constraints also impede journalists from checking their pieces before publication (Hermida 2015). While studies from the journalistic perspective clearly indicate the negative impact of UGC on these three antecedents, studies focusing on recipients paint a more ambiguous picture: In her focus group interviews, Andén-Papadopoulos (2013) shows that recipients perceive UGC in the form of video-content as authentic, real, raw and unmediated, and therefore also as credible. However, it is important to point out that the video in question was one of Muammar al-Gaddafi's death, which, according to the recipients, largely spoke for itself. In contrast, recipients stressed that videos in which the content was not quite as clear posed problems of verifiability. A recent online experiment (Schmierbach et al. 2016) found that a quote from Twitter embedded in a news article had no effect on recipients' perceived credibility when compared to a condition where the origin of the quote was not specified. Finally, in an online vignette-based study, Kruikemeier and Lecheler (2016) asked recipients to evaluate various journalistic sourcing strategies. While they did not focus specifically on UGC, their results show that recipients regard social media sources – specifically Twitter and Facebook – as less credible than either other online sources or traditional offline sources.

UGC's Influence Depending on the Mode of Integration: Verification and Visualization

Journalists are aware of the problems regarding these last three antecedents and have started taking measures to enhance credibility by trying to verify UGC before using it as supplementation (Hermida 2015; Hermida and Thurman 2008). In the case of CNN iReport, for example, Hellmueller and Li (2015) show that a change has taken place: While unverified UGC was initially published on the CNN website, CNN now only publishes vetted content. Moreover, journalism students are being taught the importance of verification, particularly when it comes to online or social media sources (Fisher 2016). If verification is not possible, journalists have developed a more transparent approach as a coping mechanism in that they explicitly state that reported information is alleged, unverified, or yet unconfirmed (Winterlin 2017; Hermida 2015; Volkmer and Firdaus 2013). Most recipients roughly know why verification in relation to news content is an issue, even though a series of focus groups showed that they are unaware of the actual journalistic process behind it (Brown 2015). Kruikemeier and Lecheler (2016) found that visible verification of social media sources improves recipients' perceived credibility of Facebook, but not of Twitter, which they attribute to the fact that Twitter is increasingly anonymous whereas Facebook users often use full names and location details. Despite the dearth of research regarding the effect on recipients, the overall results regarding this mode of integrating UGC indicate that verifying and actively communicating this verification could be crucial to counteracting the negative impact UGC may have on the perceived credibility of a news article.

Besides verification, visualization could also impact how UGC influences the antecedents of trustworthiness: Regarding visualization in journalism in general, studies show that pictures or graphics as so-called entry points can serve as a guide for recipients' news attention and therefore partly shape their news reception (Bucher and Schumacher 2006; Leckner 2012). Hence, such visuals might serve as a prerequisite for the evaluation of news content, including the evaluation of the antecedents of trustworthiness. However, the embeddedness and use of images or multimedia content, often operationalized as (moving) visuals, has so far seldom been shown to have an effect on the evaluation of news (Brantner, Lobinger, and Wetzstein 2011; Chang, Nam, and Stefanone 2012; Kiouisis 2006; Kiouisis and Dimitrova 2006). Nevertheless, research on the effect of

visuals on journalistic trustworthiness specifically is rare and thus should be expanded, especially based on experimental designs (de Haan et al. 2017). Regarding UGC, we believe addressing the influence of visualization on trustworthiness is especially important for two reasons: First, in studies on UGC, multimedia modes of communication have been hitherto neglected (Naab and Sehl 2016) and therefore need to be examined more closely. Second, journalists can visualize UGC in different ways, namely via pictures or videos shared by the audience, via screenshots of text shared by the audience or via a combination of both. At the same time, these various ways of visualizing UGC could have varying influences on trustworthiness. Only one previous study considers how visualizing UGC affects trustworthiness: Schmierbach et al. (2016) examine formatting cues, hence if a tweet is included as a screenshot or not, but find no influence.

Summary of UGC's Influence

The literature review shows that integrating UGC can generally have both a positive and negative influence on the perceived trustworthiness. Thus, we are firstly interested in the overall effect of integrating vs. not integrating UGC as a source in an article and pose the following research question:

RQ1: What influence does integrating UGC have on an article's perceived trustworthiness?

More specifically, we are secondly interested in the effect of different modes of integrating UGC on the perceived trustworthiness of an article and hence manipulated the visualization and verification of UGC as two particular modes of integration. Based on the literature review, it seems legitimate to assume that the manner in which UGC is visually integrated can influence the perceived trustworthiness. However, due to a lack of research regarding the specific nature of this effect, we pose a second research question:

RQ2: What influence does the visual integration of UGC have on an article's perceived trustworthiness?

Furthermore, previous studies have stressed the importance of verification regarding the impact of UGC, since verification can have a positive influence on perceived credibility and thus on the perceived correctness of information, reliability of sources and verifiability of information as antecedents of trustworthiness. Based on this research, we express the following hypothesis:

H1: Articles in which UGC is integrated as a verified source will be perceived as being more trustworthy than articles in which UGC is integrated as a non-verified source.

Method

To test the hypothesis and answer the research questions, we conducted an online experiment in which participants were given an article varying in its topic.

Sample

The sample was recruited by SoSci Survey (Leiner 2014), an open panel for scientific purposes that gains participants by collecting email addresses of survey respondents in a large convenience pool. 487 participants partook in the study (295 female). Their ages

ranged from 14 to 80 years ($M = 39.64$, $SD = 14.62$) with only two of the respondents being younger than 18. 20.3% were students, 48.5% were employees, 9.0% were self-employed, 6.6% were pensioners, and 6.6% were civil servants. Regarding education, the sample was slightly more educated than the public with 55.0% holding a university degree.

Stimulus

We chose Twitter as the displayed source of the information provided by UGC because Twitter is frequently used by recipients to share information with journalists as well as the general public (Cammaerts and Couldry 2016), and also due to the fact that it has become a common practice in journalism to quote from Twitter or to integrate a tweet as a visual element in news stories (ibid.; Schmierbach et al. 2016). Apart from UGC in the form of a Twitter quotation, further traditional sources in the form of the police, protest organizers and Deutsche Bahn were also used in the article. The integrated UGC questioned the information given by other traditional sources.

For the experiment, we wrote articles specifically designed to resemble an online article on a platform of a newspaper website. To exclude influences of media brands, we chose a neutral design without naming a specific brand. The stimuli varied with regard to two between-subject factors, which are explained more fully below: visualization and verification. We controlled for recency as well as for both likes and retweets as rating cues in the visual conditions, as both can potentially influence perceived trustworthiness (Grosser 2016; Sundar, Knobloch-Westerwick, and Hastall 2007). Apart from these four different treatment groups, we also added a control group which received the same story but without any indication of UGC in the form of Twitter as a source and thus also no visualization and no mention of verification. Instead, the same information was attributed to people journalists talked with at the events. This allows us to answer RQ1 on whether an article's trustworthiness differs depending on the integration or non-integration of UGC as a source.

Furthermore, we conducted our analysis for two different topics. Studies have shown that UGC is used in political news topics such as terrorist attacks and political upheavals. Hence, there has been a focus on the relevance of political UGC (Naab and Sehl 2016). Nevertheless, research has also shown that specific invitations for UGC are more likely to be found in human interest news (Domingo 2008; Manosevitch and Tenenboim 2016; Örnebring 2008), which is defined by "a human face or an emotional angle" (Semetko and Valkenburg 2000, 95) at the center of the story. Although a strict differentiation between topics, often in the context of soft and hard news, is heavily disputed (Boukes and Boomgaarden 2015), journalistic use of UGC might therefore at least vary with different news topics. Additionally, research also indicates that how recipients develop trust in news articles differs by topic (Kohring and Matthes 2004). Recipients apply different standards in evaluating the quality (Jungnickel 2011) and trustworthiness of a news piece and its sources (American Press Institute 2016; Fogg 2003; Miller and Kurpius 2010) depending on the topic and especially their involvement in it (Matthes 2011). To deliver more reliable, generalizable results, our study thus takes into account whether both UGC's general influence and the specific influence of the mode of integrating UGC on the trustworthiness of a news article varies with different topics as a control variable.

In order to control for topic-related differences, we therefore conducted the analysis for two different topics for both the treatment groups and the control group, which results in a total of ten groups. One half of the stimulus articles reported on riots during an Anti-Pegida demonstration (i.e. a demonstration against a German right-wing movement). For simplification, this article from now on is described as the 'political article' as it discusses xenophobic movements in Germany in the context of the influx of refugees. The other

half dealt with the inadequate treatment by the German railway company Deutsche Bahn of passengers who got stuck on the train for hours without receiving any information about what was going on.³ The article was chosen to resemble a more strongly human interest-oriented topic as the article centers on the travelers' emotional trials and personal discomfort on the train. The article will therefore be referred to as the 'human interest article'. Nevertheless, these articles are examples for different topics rather than prototypes for these news genres.

[Insert Table 1 here]

Visualization

The information provided by UGC was modified regarding its visual representation. In the non-visual conditions, the information in the news article was attributed to tweets from individuals on Twitter. In the visual condition, the same attribution to Twitter was included and, moreover, supplemented by a screenshot of the tweet referred to in the news article. We decided to focus on this particular type of visualization since a recent previous study showed that journalists often use social media, from which they frequently take UGC, for textual rather than visual information (Hladik and Štětka 2017).

Verification

The second factor varied was the result of the journalist's attempts at verifying the UGC. In the verified condition, the article itself stated that the tweet had been confirmed by other sources. In the non-verified condition, the article and – if applicable – the screenshot captions stated that the journalist had been unable to verify the information by using other sources.

Experimental Groups and Procedure

The experiment is effectively based on a 1x2x2 post-test only design (no UGC; verified vs. non-verified integration of UGC; visual vs. non-visual integration of UGC). Participants either received the political or the human interest article within these five conditions, leading to a total of ten randomly assigned experimental groups. The group sizes were relatively comparable with 54 respondents in the biggest and 43 in the smallest group. The experiment was announced as a study on how people feel about online journalism. First, participants answered questions regarding their media use. Subsequently, the stimulus was displayed and then the participants answered questions regarding their perceived trustworthiness of the article, manipulation check items, and control variables such as sociodemographic data. At the end, all participants were fully debriefed and provided with an explanation that the articles were fictitious.

Measures

Trustworthiness

To examine the trustworthiness of a news article, we developed a UGC trustworthiness scale by combining items derived from theory with items from previously validated scales⁴. Starting with an initial set of items from existing research on media credibility and media trustworthiness (Gaziano and McGrath 1986; Kohring 2004; Meyer 1988), a subset of items was chosen that apply to the antecedents shown to be influenced by UGC. Finally, we added additional items that were derived from our previously

developed conceptual model of trust in journalism, specifically regarding the relevant antecedents of trustworthiness for UGC (Grosser 2016; Grosser, Hase, and Blöbaum 2016). Five antecedents of trustworthiness (diversity, currentness, correctness and verifiability of information as well as reliability of sources) were measured by asking people on a 5-point Likert scale how much they agreed with a statement (see Table 2). A pretest with a political news article ($N = 151$) demonstrated the high internal consistency ($\alpha = .89$) of the UGC trustworthiness scale. This high internal consistency also emerged in the main analysis ($\alpha = .85$).

[Insert Table 2 here]

Recipient Characteristics

To control for recipient characteristics that might influence the perceived trustworthiness of news articles, we included control variables such as social media self-efficacy, general propensity to trust, political attitude on a scale from left- to right-wing oriented, interest in the news article, and age and gender as sociodemographic data. Social media self-efficacy, defined as “a person’s perceived ability to reach desired outcomes in the social media environment” (Hocevar, Flanagin, and Metzger 2014, 254), was measured using a validated scale which is composed of the dimensions perceived social media skills, confidence in ability to successfully find information online, level of social media content production and level of social media content consumption (ibid.). After normalizing these different dimensions by converting them to z-scores, this scale proved to be valid ($\alpha = .78$). Propensity to trust was measured based on a single-item (Uslaner 2012). A randomization check showed that relevant characteristics were distributed quite similarly between the experimental and control groups and randomization was achieved. The only noteworthy difference emerged regarding the interest in an article’s topic with the political article being perceived as more interesting.

Results

Manipulation Check

To conduct further analysis, a manipulation check was deemed necessary. When comparing the respondents who received a stimulus with visual integration of UGC with those who read an article without visual integration of UGC, significantly more people of the first group (91.5%) correctly recalled such visual integration, compared to correct identification in the second group (75.9%), $\chi^2(1, N = 390) = 182.17, p < .001$. The same applied to the verification of UGC, $\chi^2(1, N = 391) = 30.77, p < .001$. Although 83.0% correctly identified UGC not to be verified, only 42.9% actually perceived UGC to be verified in the verified condition. Therefore, a substantial percentage of respondents had trouble correctly identifying whether an article contained information that had or had not been verified. We will return to this issue at the end of this paper and have taken it into account for further analysis.

Multivariate Analysis

Firstly, this paper deals with the general influence UGC might have on journalistic trustworthiness (RQ1). Regarding this question, the mean value of the articles’ general trustworthiness – calculated on the basis of the mean index of the five antecedents of perceived trustworthiness – was compared between the experimental groups and the control group which received an article without UGC. In other words: The experiment

tested whether respondents who read an article in which UGC was integrated perceived the article to be more trustworthy than those who read the article without any mention of UGC. Based on an ANCOVA⁵ controlling for age, gender, social media self-efficacy, trust propensity, political orientation, and interest in the article's topic, there was in fact a significant effect of UGC on perceived trustworthiness ($F(1, 346) = 10.218, p < .01$, partial $\eta^2 = .029$). Participants who read an article with integrated UGC found the article to be less trustworthy ($M = 2.69, SD = .55$) than those who read the same article without mention of UGC ($M = 2.93, SD = .52$). Nevertheless, this difference was relatively small and varies within the two news topics and the antecedents of trustworthiness, as can be seen in Table 3.

All means displayed a pattern of lower trustworthiness in the UGC condition. This is especially surprising with regard to the perceived diversity and currentness of information, which previous research indicated would be positively influenced. Although this difference did not reach statistical significance for these two antecedents, UGC significantly reduced how correct ($F(1, 291) = 14.851, p < .001$, partial $\eta^2 = .049$) and how verifiable the participant regarded the information to be ($F(1, 326) = 5.294, p < .05$, partial $\eta^2 = .016$) as well as how reliable the sources were deemed ($F(1, 270) = 15.79, p < .001$, partial $\eta^2 = .055$). Some of the control variables, especially social media self-efficacy and interest in the news article, also had a significant effect themselves, which supports the thesis that measuring recipients' characteristics is an important part of trust research. Nevertheless, they did not influence the general effect of UGC. Regarding RQ1, UGC therefore seemed to have a negative but overall weak influence on recipients' perception of a journalistic article's trustworthiness.

[Insert Table 3 here]

Secondly, the experiment tested whether the visual or non-visual integration of UGC influenced the article's perceived trustworthiness. We tested this effect both for the entire sample of people who received an article with UGC as well as for a subgroup without the participants who failed the manipulation test regarding their perception of visualization. The results were quite similar, so that significant tests and effect sizes for the entire sample are reported. Mean values for trustworthiness were slightly higher for groups without visual integration both for human interest news ($M = 2.78, SD = .56$) and political news ($M = 2.7, SD = .62$) than for those with visual integration for human interest news ($M = 2.71, SD = .43$) and political news ($M = 2.58, SD = .55$). Nevertheless, these differences were non-substantial: No significant effect of visual integration emerged for either the human interest topic ($F(1, 130) = .184, p = .669$) or the political topic ($F(1, 140) = 1.271, p = .261$). Therefore, regarding RQ2, there was no substantial effect on trustworthiness for whether or not UGC was integrated visually.

[Insert Table 4 here]

Finally, the experiment tested the impact of whether UGC was displayed as verified or unverified on an article's trustworthiness (Table 4). We again tested whether there were differences in results for all experimental groups on the one hand and a subsample without participants who failed the manipulation test regarding verification on the other hand. As results were comparable⁶, significance tests and effect sizes for the first form of testing are reported. No significant differences in general trustworthiness emerged when examining the human interest articles. Considering the political articles, however, an ANCOVA yielded significant variation in mean trustworthiness values ($F(1, 140) = 6.5, p < .05$, partial $\eta^2 = .044$). Respondents reading an article with verified UGC assigned the article higher levels of trustworthiness ($M = 2.75, SD = .54$) than those in the non-verified

condition ($M = 2.53$, $SD = .61$). Breaking these results down by the different antecedents of trustworthiness, only partially significant differences can be detected as shown in Table 4. If UGC was unverified, participants perceived the correctness of information to be significantly lower compared to those who read an article in which UGC was verified ($F(1, 117) = 4.461$, $p < .05$, partial $\eta^2 = .037$). The same applied for the currentness of the journalistic piece ($F(1, 126) = 5.1$, $p < .05$, partial $\eta^2 = .039$) and the reliability of its sources ($F(1, 110) = 13.405$, $p < .001$, partial $\eta^2 = .109$). In sum, verification of UGC increased recipients' perception of trustworthiness especially in terms of the reliability of sources but only when reading the political article and not the human interest one. Additionally, only some recipients actually perceived the integration of such verification. H1 was therefore only partly supported.

Discussion and conclusion

This paper advances current research with regard to two aspects: The study shed light on how UGC influences journalism's trustworthiness and specifically focused on the recipients' point of view. Although UGC is increasingly used in online news, and one might expect that integrating users' perspectives by incorporating UGC in stories would improve attitudes regarding journalistic reporting, we found a negative or no overall effect of integrating UGC on journalistic trustworthiness. Its integration generally decreased recipients' perceptions of both the reliability of the sources used and the correctness and verifiability of the presented information. Even the perceived diversity and currentness of information were negatively impacted, albeit not significantly, which is especially surprising in light of previous research. Regarding different modes of integrating UGC – namely visualization and verification –, there are significant differences but the effect sizes are not overwhelmingly large. Whether UGC was integrated visually or not has no influence on the recipients' perceived trustworthiness, which is similar to the results of Schmierbach et al. (2016) and other studies on embedding images or multimedia content in news (Chang, Nam, and Stefanone 2012; Kioussis 2006). The presence of verification attempts regarding UGC also only partly plays a role. For political articles, the integration of non-verified UGC led to a decrease in trustworthiness compared to the integration of verified UGC. Nevertheless, this effect did not hold for the human interest articles, which calls into question a general influence of verification.

Therefore, simply including UGC as a form of audience participation does not seem sufficient for journalism to regain the audience's trust. The audience tentatively evaluates news articles less positively if they contain UGC, although its inclusion might not damage journalism's trustworthiness to an extreme extent. Another interesting finding relates to the heavily discussed aspect of verification. While journalists are continuously developing new methods to verify content, especially in times of fake news (Brandtzaeg et al. 2017), and, as delineated above, seem to assume that transparency with regard to verification attempts could be the ticket to enhancing trustworthiness, our analysis shows that the audience perceives the display of such verification attempts to a very limited extent. Additionally, including UGC that cannot be verified by other sources might actually decrease journalism's trustworthiness, especially the evaluation of journalistic sources. Hence, if UGC cannot be verified, this study indicates that it should be left out altogether. Overall, it appears that journalism's trustworthiness will more likely suffer than benefit from an increased use of UGC, regardless of its specific mode of integration.

Nevertheless, this study raises no claim of generalizability as the sample is biased due to self-selection into the SoSci Panel, wherefore our results might not be representative for the German population (Leiner 2016). In particular, the sample of this analysis is a highly educated one. As education is partly associated with trust in journalism (Tsafiti and Ariely 2014), this might have influenced our results.

Also, we did not analyze the effect of UGC in all its possible variations. Regarding visualization, as previously delineated, UGC can be integrated in various manners. Integration in the form of pictures or video sequences may have a different impact on trustworthiness than the screenshot examined here. Regarding verification, Karlsson, Clerwall, and Nord (2017) find that general trust in journalism has an impact on recipients' tolerance for errors in reporting, with high trust recipients being more tolerant than low trust recipients. Similarly, general trust in journalism might also have an impact on recipients' specific views on verification practices when it comes to integrating UGC. This has yet to be determined. Also, a considerable amount of participants in our study had trouble correctly identifying whether or not the UGC was verified. Tentatively speaking, recipients believed content to have been verified more often than it was actually the case. This might be related to the fact that we presented UGC published in a professional journalistic context, where one could expect information to be vetted. Although most journalists try to verify such information, examples in the past have shown that they do not always manage to do so (Sienkiewicz 2014). As previously discussed, most journalists have taken to explicitly stating whether or not UGC-provided information could be verified or not. Nevertheless, this study shows that recipients have a hard time correctly perceiving such coping mechanisms.

Furthermore, while we contend that UGC can enable journalists to report new angles and perspectives on issues, or even bring certain stories to journalists' attention in the first place, we chose to provide our control groups with the same information as the other groups, the difference being that there was no reference to Twitter as the source of information. We could have instead chosen to provide the control groups with articles void of the information available through UGC. While this would have allowed us to compare the perceived trustworthiness of articles with UGC as the sole source of certain information with that of articles not featuring this information at all – certainly an interesting project in its own right – we decided to keep the stimuli as alike as possible. This was done in order to limit the effect of non-UGC-related factors, in this case: the effect of the information itself. Additionally, UGC cannot only question other information as it does in our study or provide completely new information as just described, but also bolster previous information. This type of relationship between UGC-provided and non-UGC-provided information might influence UGC's impact on the trustworthiness differently than the relationship in this study does and thus would be an interesting avenue to pursue in future research.

The exact reasons behind the perceptions of UGC in general and of the two modes of integrating UGC more specifically still have to be determined, something we were not able to examine in the experiment presented here. Therefore, further research is needed in order to gain deeper insights into the recipients' perceptions of UGC and the various ways it can be integrated in online journalism. Besides analyzing a greater array of forms of UGC integration, we also propose a qualitative approach for future research in this area, specifically in order to uncover such reasons. This would not only further the understanding of UGC's influence on online journalism's trustworthiness specifically, but also generally contribute to shedding more light on the somewhat neglected recipients' perspective on UGC in journalism.

NOTES

1. This is not to say that trustworthiness and credibility are the same. While both trustworthiness and credibility are subjective perceptions on the part of the recipient, trustworthiness is conceptualized as the more broad and complex perception in this paper. As will be delineated in the next section, trustworthiness is determined by

more antecedents than the three antecedents which credibility refers to (Kohring 2004). Credibility can therefore be understood as being antecedent to trustworthiness.

2. The relationship between the antecedents of trustworthiness and trustworthiness itself is not understood as hierarchical. Rather, the perceived trustworthiness of an article is an aggregation of the perceived fulfillment of those antecedents that are relevant for that article.
3. Both an example for an article with visual integration of and verified UGC (group 1) and an example for an article without visual integration of and with non-verified UGC (group 4) can be found in the Appendix, Figure 1 and Figure 2. The first example features the human interest and the second the political topic.
4. While there are a number of antecedents of trustworthiness, our previously developed conceptual model proposes that only five of these antecedents are influenced by UGC. Consequently, only these five antecedents were taken into account for the UGC trustworthiness scale and measured in our experiment. Trustworthiness in the further course of this paper therefore is used to denote the aggregation of these five antecedents.
5. In a few cases, some assumptions the ANCOVA is based on were not met. This was only rarely the case. Nevertheless, we therefore checked our results against comparison of means based on simple ANOVA-analyses. The difference in means as well as significance tests resulted in quite similar results that are displayed in the Appendix, Table A.
6. Noteworthy differences when excluding these respondents from the sample emerged regarding the correctness of information which then turned non-significant ($F(1, 74) = 2.352, p = .129$) and the currentness of information ($F(1, 80) = 3.505, p = 0.065$).

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APPENDIX

[Insert Table A here]

[Insert Figure 1 here]

[Insert Figure 2 here]

Table Headings

Table 1: Overview of experimental groups for different modes of integration. Note: Group 1 to 4 received a human interest article, group 6 to 9 an article with a political topic. Group 5 and 10 (not displayed here) were control groups for all of these experimental groups in which UGC was not mentioned.

Table 2: Mean value and internal consistency of the five antecedents of trustworthiness.

Table 3: Mean values of antecedents of trustworthiness (experimental groups vs. control groups). Note: Differences were calculated based on an ANCOVA.

Table 4: Mean value of antecedents of trustworthiness (verification vs. no verification). Note: Differences were calculated based on an ANCOVA.

Table A: Summary of mean comparisons (ANCOVA vs. ANOVA). Note: Cell entries are means for each research question for the ANCOVA (controlling for age, gender, social media self-efficacy, trust propensity, political orientation, and interest in the article's topic) as well as means based on an ANOVA with means between brackets. ^a subscripts identify a significant difference based on an ANCOVA, ^b subscripts do so based on an ANOVA.

Figure Captions

Figure 1: Stimulus group 1 (screenshot, verified), human interest article. Note: English translation of headline: “Horror in Hattenhofen: Winter thwarts Deutsche Bahn”

Figure 2: Stimulus group 4 (no screenshot, not verified), political article. Note: English translation of headline: “Riots in Freiburg: Police and left-wing demonstrators clash at Anti-Pegida-protests”

Word Count: 9029 (Includes everything from title to references)